

Temperature and rainfall data for the cotton districts, September, 1885.

Districts.	Rainfall.			Temperature.								Extremes for Sept., 1885.	
	Average for Sept. of three preceding years.	Average for Sept., 1885.	Departures.	Maximum.				Minimum.				Max.	Min.
				Mean for Sept. of three preceding years.	Mean for Sept., 1885.	Departures.	Mean for Sept. of three preceding years.	Mean for Sept., 1885.	Departures.				
										°	°		
New Orleans...	2.18	5.09	+ 2.91	88.6	85.0	- 3.6	65.8	67.7	+ 1.9	97	50		
Savannah.....	3.13	7.49	+ 4.36	87.3	85.4	- 1.9	66.2	66.8	+ 0.6	98	53		
Charleston.....	4.88	3.37	- 1.51	84.9	82.9	- 2.0	64.0	69.0	+ 5.0	95	43		
Atlanta.....	1.86	0.68	+ 1.18	84.4	80.8	- 3.6	62.4	63.6	+ 1.2	94	44		
Wilmington.....	5.39	2.99	+ 2.40	82.4	81.3	- 1.1	62.0	66.5	+ 4.5	94	29		
Memphis.....	1.66	4.24	+ 2.58	85.4	82.9	- 2.5	60.3	61.8	+ 1.5	97	38		
Galveston.....	3.04	5.26	+ 2.22	87.8	87.4	- 0.4	65.0	67.3	+ 2.3	100	38		
Vicksburg.....	1.80	6.52	+ 4.72	88.3	84.4	- 3.9	63.4	66.1	+ 2.7	93	46		
Montgomery.....	1.37	4.19	+ 2.82	86.9	83.5	- 3.4	62.9	64.9	+ 2.0	97	38		
Augusta.....	2.76	4.09	+ 1.33	85.9	82.6	- 3.3	64.0	68.7	+ 4.7	96	47		
Little Rock.....	1.97	1.91	- 0.06	86.5	84.9	- 1.6	58.5	62.2	+ 3.7	100	37		
Mobile.....	0.83	5.49	+ 4.66	89.3	85.6	- 3.7	63.9	68.1	+ 4.2	98	46		

The rainfall, as will be seen from the above table, was excessive in all districts, with the exception of those of Charleston and Little Rock, where, in the former, it was deficient, and in the latter, about normal. In the districts of Atlanta, Mobile, Savannah, and Vicksburg, the excess amounted to more than four inches.

While the means of the maximum temperatures were in all districts lower than the average, the minimum temperatures are, in all districts, except that of Wilmington, higher than the average.

TEMPERATURE OF WATER.

The following table shows the highest and lowest temperatures of water observed at the several stations; the monthly ranges of water temperature; the average depth at which the observations were made; and the mean temperature of the air:

Temperature of water for September, 1885.

Station.	Temperature at bottom.		Range.	Average depth, feet and tenths.	Mean temperature of the air at station.
	Min.	Max.			
Atlantic City, New Jersey.....	74.1	64.0	10.1	9.1	64.7
Alpena, Michigan.....	60.5	53.8	6.7	12.8	55.4
Augusta, Georgia.....	84.1	69.3	14.8	7.8	73.8
Baltimore, Maryland.....	77.0	68.5	8.5	10.3	66.9
Block Island, Rhode Island.....	64.7	56.1	8.6	7.6	61.4
Boston, Massachusetts.....	62.2	55.1	7.1	19.2	59.6
Buffalo, New York.....	67.3	57.6	9.7	9.5	60.0
Canby, Fort, Washington Territory.....	61.9	59.1	2.8	16.7	58.5
Cedar Keys, Florida.....	88.2	79.1	9.1	8.7	79.9
Charleston, South Carolina.....	80.8	74.3	6.5	17.5	76.4
Chicago, Illinois.....	77.8	57.6	20.2	8.8	63.9
Chicocteau, Virginia.....	77.6	67.2	10.4	3.7	67.3
Cleveland, Ohio.....	68.9	61.9	7.0	14.0	61.5
Detroit, Michigan.....	65.8	60.0	5.8	26.3	62.7
Duluth, Minnesota.....	58.7	47.3	11.4	10.5	53.9
Eastport, Maine.....	51.8	50.0	1.8	16.8	54.4
Escanaba, Michigan.....	60.3	54.0	6.3	18.3	55.3
Galveston, Texas.....	86.8	76.6	10.2	13.2	79.9
Grand Haven, Michigan.....	67.6	60.9	6.7	19.0	59.6
Indianola, Texas.....	85.9	77.0	8.9	9.2	78.5
Jacksonville, Florida.....	88.0	77.8	10.2	18.0	79.3
Key West, Florida.....	89.9	84.2	5.7	17.6	84.0
Mackinaw City, Michigan.....	59.0	53.8	5.2	10.0	55.6
Macon, Fort, North Carolina.....	82.0	72.6	9.4	13.4	72.6
Marquette, Michigan.....	54.7	52.9	1.8	12.4	55.5
Milwaukee, Wisconsin.....	61.7	50.7	5.0	8.0	60.0
Mobile, Alabama.....	83.8	77.5	6.3	16.0	76.6
New Haven, Connecticut.....	69.7	61.5	8.2	16.9	60.7
New London, Connecticut.....	67.2	61.2	6.0	11.6	61.0
New York City.....	77.0	63.2	13.8	18.3	64.1
Norfolk, Virginia.....	77.0	67.1	9.9	16.2	70.0
Pensacola, Florida.....	85.0	78.4	6.6	17.4	78.3
Portland, Maine.....	57.7	52.3	5.4	10.7	57.0
Portland, Oregon.....	67.7	62.9	4.8	49.5	62.2
Sandusky, Ohio.....	70.0	61.8	8.2	11.7	63.4
Sandy Hook, New Jersey.....	74.1	67.7	6.4	2.3	64.7
San Francisco, California.....	61.1	58.1	3.0	37.7	60.7
Savannah, Georgia.....	81.8	71.6	10.2	11.2	76.0
Smithville, North Carolina.....	79.5	70.3	9.2	11.1	74.0
Toledo, Ohio.....	68.4	63.2	5.2	13.7	63.0
Wilmington, North Carolina.....	84.2	67.2	17.0	14.8	73.1

\* Record for last four days of the month.

WINDS.

The most frequent directions of the wind during September, 1885, at Signal Service stations, are shown on chart ii by arrows

flying with the wind; they are also given in the table of miscellaneous meteorological data. In New England, the Lake region, upper Mississippi, Missouri, and Ohio valleys, the prevailing directions were mostly southerly; on the middle and south Atlantic coasts and in the Gulf States, they were mostly northeasterly; on the Pacific coast, they were generally from the west; in the Rocky Mountain districts they were variable.

HIGH WINDS.

[In miles per hour.]

On the summit of Mount Washington, New Hampshire, wind-velocities of fifty or more miles per hour occurred on the following dates: 1st to 6th, 8th, 9th, 13th to 19th, 22d, 23d, 24th, the highest velocities being 90, nw., 23d (maximum for month); 85, w., 4th; 80, nw., 16th.

Other stations registering wind-velocities of fifty miles or more per hour are as follows:

- Dodge City, Kansas, 51, nw., 7th.
- Fort Assinaboine, Montana, 51, sw., 9th.
- Valentine, Nebraska, 54, n., 11th.
- Fort Shaw, Montana, 68, sw., 13th.
- Pike's Peak, Colorado, 52, nw., 13th.
- Indianola, Texas, 60, ne., 19th.
- Fort Macon, North Carolina, 52, se., 21st.
- Kitty Hawk, North Carolina, 56, n., 22d.
- Sandy Hook, New Jersey, 53, nw., 23d.
- Cape Henry, Virginia, 51, nw., 23d.
- Cape May, New Jersey, 56, nw., 23d.

LOCAL STORMS AND TORNADOES.

Dodge City, Kansas: a violent northwesterly gale occurred at this place at about 6 p. m. on the 7th. The wind, for a few minutes, blew at the rate of sixty miles per hour.

Maybee, Monroe county, Michigan: at 5.45 p. m. on the 8th a violent storm occurred at this place, destroying several buildings.

Cambridge City, Wayne county, Indiana: at about 5.30 p. m. on the 8th this place was visited by a destructive storm. Several dwellings and out-buildings in this vicinity were unroofed or otherwise damaged.

Lancaster, Fairfield county, Ohio: numerous dwellings were destroyed in this county by a violent storm on the 8th. Orchards and crops were also destroyed, and considerable stock killed.

Napoleon, Henry county, Ohio: at about 5 p. m. on the 8th a severe wind storm prevailed in this vicinity. Several dwellings and barns in the surrounding country were blown down. The track of the storm was about one-half mile in width; it appears to have spent its violence north of this place.

Portsmouth, Scioto county, Ohio: at 4.50 p. m. on the 8th a tornado passed, in a northerly direction, over this place, unroofing a few buildings and blowing down many chimneys, trees, etc., its path being about two hundred yards in width. The tornado approached the city from the south, coming over a hill about six hundred feet in height on the opposite side of the river. It was of only a few seconds' duration, and was accompanied by a roaring sound. A revolving motion of the cloud, from east to west, was observed during its passage. The observer states that the hill mentioned probably afforded the city great protection from the violence of the tornado.

Garrettsville, Portage county, Ohio: a violent storm occurred three miles southeast of station on the 8th. Much damage was done to orchards, forests, and farm buildings.

Jacksonborough, Butler county, Ohio: the storm of the 8th caused considerable damage; buildings were unroofed, and the tobacco in many places was totally destroyed.

Circleville, Pickaway county, Ohio: during the night of the 8-9th a destructive storm passed through this county from the western to the northeastern boundary. Its path was about one hundred yards wide; it was not continuous, and in places no evidences of the storm are apparent. A number of dwellings and out-buildings were demolished.

Urbana, Champaign county, Ohio: a severe wind and rain